


AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING		PAGE OF PAGES 1 3	
2. CONTRACT (Proc. Inst. Ident.) NO. EP-C-17-031/0007				3. EFFECTIVE DATE See Block 20C		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. PR-R6-18-00118	
5. ISSUED BY CODE		CP0D		6. ADMINISTERED BY (If other than Item 5) CODE		SCD-C	
CP0D US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268							
7. NAME AND ADDRESS OF CONTRACTOR (No., street, country, State and ZIP Code) TETRA TECH, INC. Attn: George Townsend 10306 EATON PL STE 340 FAIRFAX VA 22030				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT			
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN		ITEM	
CODE 198549560		FACILITY CODE					
11. SHIP TO/MARK FOR CODE		CP0D		12. PAYMENT WILL BE MADE BY CODE		RTP FMC	
CP0D US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268		RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711					
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304 (c) () <input checked="" type="checkbox"/> 41 U.S.C. 3304 (a) ()				14. ACCOUNTING AND APPROPRIATION DATA See Schedule			
15A. ITEM NO	15B. SUPPLIES/SERVICES			15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	Continued						
15G. TOTAL AMOUNT OF CONTRACT						\$90,000.00	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
	A	SOLICITATION/CONTRACT FORM			I	CONTRACT CLAUSES	
	B	SUPPLIES OR SERVICES AND PRICES/COSTS		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
	C	DESCRIPTION/SPECS./WORK STATEMENT			J	LIST OF ATTACHMENTS	
	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS			
	E	INSPECTION AND ACCEPTANCE			K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	F	DELIVERIES OR PERFORMANCE			L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	G	CONTRACT ADMINISTRATION DATA			M	EVALUATION FACTORS FOR AWARD	
	H	SPECIAL CONTRACT REQUIREMENTS					
CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE							
17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number _____, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)			
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME OF CONTRACTING OFFICER Matthew Growney			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA		20C. DATE SIGNED	
BY (Signature of person authorized to sign)				BY  (Signature of the Contracting Officer)		ELECTRONIC SIGNATURE 03/27/2018	

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED EP-C-17-031/0007	PAGE	OF
		2	3

NAME OF OFFEROR OR CONTRACTOR

TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
0001	<p>DUNS Number: 198549560</p> <p>Firm Fixed Price TO New Mexico Rio Grande River Biological Condition Gradient</p> <p>TOCOR: Dave Peck Max Expire Date: 12/31/2020</p> <p>Delivery: 12/31/2020</p> <p>FOB: Destination</p> <p>Period of Performance: 04/02/2018 to 12/31/2020</p> <p>Task Order Issuance Line Item: Technical Support for EPA/ORD/NCEA's Ecological Assessment Programs</p> <p>Accounting Info: 18-19-C-261E000-000FK8XPV-2532-26A6F-18261EC808-003 BFY: 18 EFY: 19 Fund: C Budget Org: 261E000 Program (PRC): 000FK8XPV Budget (BOC): 2532 Cost: 26A6F DCN - Line ID: 18261EC808-003 Funding Flag: Partial Funded: \$60,000.00</p> <p>Accounting Info: 18-19-C-261E000-000FK8XPW-2532-26A6F-18261EC808-004 BFY: 18 EFY: 19 Fund: C Budget Org: 261E000 Program (PRC): 000FK8XPW Budget (BOC): 2532 Cost: 26A6F DCN - Line ID: 18261EC808-004 Funding Flag: Partial Funded: \$30,000.00</p> <p>Accounting Info: 18-19-C-261E000-000FK8XPV-2532-26A6A-18261EC808-001 BFY: 18 EFY: 19 Fund: C Budget Org: 261E000 Program (PRC): 000FK8XPV Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 18261EC808-001 Funding Flag: Partial Funded: \$0.00</p> <p>Accounting Info: 18-19-C-261E000-000FK8XPW-2532-26A6A-18261EC808-002 BFY: 18 EFY: 19 Fund: C Budget Org: 261E000 Program (PRC): 000FK8XPW Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 18261EC808-002 Funding Flag: Partial Funded: \$0.00</p> <p>Delivery-Invoice Payment Schedule</p> <p>Shall not exceed a frequency greater than once a month and 90% of the task order price. Acceptance for invoicing is based on deliverable approval by the TOCOR. For efficient processing IAW FAR clause 52.232-32, performance based payment invoicing amounts will not be submitted until the TOCOR provides deliverable approval. The TOCOR will notify Tetra Tech within 14 days of submission of a deliverable of EPAs intention to approve or disapprove.</p> <p>Continued ...</p>				90,000.00

NAME OF OFFEROR OR CONTRACTOR
TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)

PERFORMANCE WORK STATEMENT

**CONTRACT NO. EP-C-17-031
CONTRACT EP-C-17-031 FFP TASK ORDER 0007**

TITLE: NEW MEXICO RIO GRANDE RIVER BIOLOGICAL CONDITION GRADIENT

A. TASK ORDER CONTRACTING OFFICER REPRESENTATIVE (TOCOR)

NAME: Dave Peck, EPA Office of Research and Development
TITLE: Research Ecologist
PHONE: (541) 754-4426
FAX:
E-MAIL: peck.dave@epa.gov

ALTERNATE TASK ORDER COR (ALT TOCOR)

NAME: Forrest B. John, EPA Region 6
TITLE: Environmental Scientist
PHONE: (214) 665-8368
FAX: (214) 665-6689
E-MAIL: john.forrest@epa.gov

B. PERIOD OF PERFORMANCE: Task Order Award through December 31, 2020

C. TASKS: NEW MEXICO RIO GRANDE RIVER BIOLOGICAL CONDITION GRADIENT

Background

While New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) has been able to develop quantitative nutrient and sediment thresholds for implementation of narrative criteria in wadeable streams no assessment procedures have been developed for non-wadeable rivers. The highly altered nature of these waterbodies in New Mexico and the lack of adequate datasets resulted in a lower prioritization for threshold development plans. Therefore, these systems, which are the water sources for most of the population in the state, have gone unassessed for nutrients and sediment. Their characteristics have been so greatly altered by dams, diversions, and channel alterations that traditional means of developing thresholds such as reference condition and stressor response analysis are not applicable. This task order proposes to use existing chemical, physical and biological data, and regional expertise from multiple sources to develop a Biological Condition Gradient (BCG) for the middle Rio Grande, i.e., Cochiti to Caballo Reservoirs. The Middle Rio Grande is the highest priority since the Rio Grande Silvery Minnow Recovery Plan focuses on this reach and Albuquerque, New Mexico's largest city and many water users are located there. If resources allow the lower segment, Caballo Reservoir to the NM/TX boarder, would be the second priority followed by the upper segment, Cochiti Reservoir to the NM/CO boarder. The upper reach is higher gradient with larger substrate and is not dam controlled so more similar to other NM Rivers. The BCG will be used to develop quantitative thresholds for implementation of existing criteria which will improve the state's ability to sustain, restore, and preserve river resources

Task 1 – Scoping Meeting and Work Plan Review

The contractor shall participate in a Scoping Meeting with the EPA Task Order COR (TOCOR) or Alternative Task Order COR (ALT TOCOR). The scoping meeting will be conducted via conference call and discussions will involve the primary objectives of the project, approaches, logistics, review of the work plan that was prepared as part of the performance work statement (PWS) proposal, requirements for the QAPP, and coordinate with the TOCORM/ALT TOCOR, EPA National Health and Environmental Effects Research Laboratory (NHEERL) -Western Ecology Division (WED), Office of Research and Development, New Mexico Environment Department (NMED), Surface Water Bureau, state of New Mexico.

The contractor task order team shall include experience and expertise in: (a) fish and macroinvertebrate ecology and geomorphology; (b) developing both biological and geomorphology indicators/criteria; (c) assembling data from various sources; and (d) statistical analysis of environmental data. The individuals must have an outstanding professional record as demonstrated by peer reviewed publications, awards, and service to relevant professional societies. The contractor shall be available to meet with EPA and state staff regularly in order to assemble data that may or may not be readily available through electronic means.

Task 1 Deliverables

1. Within 10 calendar days after the Scoping Meeting, the contractor shall prepare and provide the TOCOR/ALT TOCOR with a concise written summary of the meeting which identifies participants, key points discussed and areas of consensus.

Task 2 – Quality Management Plan and Quality Assurance Project Plan

No later than 30 calendar days after the Scoping Meeting (Task 1), the contractor shall submit a QAPP for this task order in accordance with the contract – EPA Requirements for Quality Assurance Project Plans (QA/R5) dated 3/20/2008. During the term of the Task Order, the contractor shall be responsible for updating the QAPP to reflect any modifications.

Task 2 Deliverables

1. No later than 30 calendar days after the scoping meeting, the contractor shall prepare a Draft Quality Assurance Project Plan in accordance with EPA criteria for review by the TOCOR/ALT TOCOR.
2. Within 10 calendar days after receiving comments on the Draft Quality Assurance Project Plan, the contractor shall submit a Final Quality Assurance Project Plan.

Task 3 – Biological Condition Gradient Development Approach

As part of the Work Plan/Proposal, the contractor shall describe a development approach for Biological Condition Gradient for aquatic designated use and translators for New Mexico's narrative sedimentation and nutrient water quality standard § 20.6.4.13 New Mexico Administrative Code. For example, the contractor shall consider the stepwise descriptive model as provided in *The Biological Condition Gradient: A Descriptive Model for Interpreting Change in Aquatic Ecosystems* (Davies and Jackson 2006) and *A Practitioner's Guide to the Biological Condition Gradient: A Framework to Describe Incremental Change in Aquatic Ecosystems* (EPA 2016).

The contractor shall consider exploring the feasibility of developing a conceptual model for identifying multiple levels of biological conditions for assessment and management of aquatic resources, with 6 levels, ranging from pristine (Level 1) to severely degraded and altered (Level 6). Potential applications under discussion include further refining aquatic uses, identification of nutrient and sediment thresholds for non-wadeable systems.

Task 3 Deliverables

1. Within 60 calendar days of approval of the Final QAPP (Task 2), the contractor shall provide a draft Biological Gradient Condition Development Approach. The approach shall include: (a) conceptual model for identifying multiple levels of biological conditions for assessment and management of aquatic resources; (b) data management; (c) site classification; (d) taxa stressor sensitivity; (d) workshop and webinar facilitation to exchange information about the BCG and elicit expert opinions regarding taxa and sample characteristics; (e) model development to replicate the expert opinions; and (f) quantitative model to accurately assess streams on a broadly understood scale of conditions so that waterbodies can be prioritized for efficient allocation of protection and restoration efforts.
2. Within 30 calendar days of receiving comments by the TOCOR/ALT TOCOR on the draft Biological Gradient Condition Development Approach, the contractor shall provide a final Biological Gradient Condition Development Approach.

Task 4 – Aggregate, QA, and Manage Data for Use throughout the Task Order

The contractor shall be tasked with compiling existing Environmental Monitoring and Assessment Program (EMAP) data for Rio Grande River both in New Mexico and neighboring states, as requested by technical direction from the TOCOR/ALT TOCOR, into a relational database and spreadsheets appropriate for specific parts of the BCG development. With previous New Mexico Environment Department Cooperative Agreement Supplemental CWA §106 funds, NWPP Contract, Task Order 2010-52 and Nutrient Scientific Technical Exchange Partnership & Support (N-STEPS) contract, the necessary biological, chemistry, and habitat data has already be compiled. The contractor shall review other available stream sampling data provided by the State of New Mexico to determine whether and how that data may be used in the analysis. The GIS-based watershed data (e.g., watershed area associated with each sampling location, elevation, mean annual precipitation, generalized geology, land cover, etc.) will be provided by EPA Region 6. The contractor shall merge the river data into a comprehensive dataset.

Exploratory data analysis techniques (e.g., correlation analysis, scatter plots, histograms, etc.) will be used to identify potential outliers or other data quality issues. Available supplemental data such as field data forms, field photographs, and inspection of site setting using Google Earth Pro may be used to validate, correct, or reject data flagged as questionable during quality assurance (QA) review. Furthermore, data may be analyzed for comparability among data sources and sampling methods so that biological data can be either pooled or flagged for separate treatment for methods that are not comparable.

Task 4 Deliverables

1. Within 60 calendar days of Task 3, the contractor shall complete the compilation and exploratory data analyses of existing Rio Grande River data for New Mexico and neighboring states, as needed, into a relational database and spreadsheets appropriate for specific parts of the BCG development.
2. Within 10 calendar days of completion of Deliverable 4.1, the compiled data and data analyses shall be delivered to the TOCOR/ALT TOCOR in a Microsoft relational database and spreadsheets appropriate for specific parts of the BCG development as directed by the TOM/ATOM.

Task 5 – Analyze and Develop Site Classification Scheme

Site classification for biological types proceeds using grouping techniques such as non-metric multi-dimensional scaling (NMS), cluster analysis, metric distribution comparison, and taxa geographic distributions. Starting with the premise that ecoregions might prove to be an adequate site classification framework for fish and macroinvertebrates in New Mexico Rivers, the contractor shall consider using the classification techniques to test classification schemes related to ecoregions and other categorical or continuous variables. Additional site classes may focus on hydrological flow – ecology relationship and flow persistence more so than regionalization. Variability remaining after categorical classification (e.g., from catchment size) might be addressed through further classification or adjustment of BCG rules. The classification scheme must ultimately be approved by the TOCOR/ALT TOCOR in consultation with NMED. During the classification process, taxa may be categorized in terms of regional distribution and response to a general stressor gradient. The gradient may be defined using land use and other site.

Task 5 Deliverables

1. Within 60 calendar days of Task 4 completion, the contractor shall deliver to the TOCOR/ALT TOCOR a draft Rio Grande River Classification Scheme.
2. Within 30 calendar days after receiving comments from the TOCOR/ALT TOCOR on the Draft Rio Grande River Classification Scheme, the contractor shall prepare a final Rio Grande River Classification Scheme.

Task 6 - Biological Condition Gradient (BCG) Panel Engagement

Working in coordination with the TOCOR/ALT TOCOR and NMED, the contractor shall initiate a local expert panel, from the Albuquerque/Santa Fe area, of approximately 6 - 15 staff biologists and representatives from, e.g., other government agencies, academia, and industry, to foster meaningful scientific discussions of the BCG and consensus on taxa attributes and site ratings.

The local expert panel will be introduced to BCG concepts through, e.g., a webinar preceding the Task 8 face-to-face workshops. The materials may cover the BCG purpose, history, calibration process, applications in Clean Water Act programs. The contractor shall prepare and distribute the materials prior to the webinar for participant's review.

Task 6 Deliverables

1. Within 30 calendar days after completion of Task 5, the contractor shall deliver to the TOCOR/ALT TOCOR, a list of 6 – 15 local expert staff biologist and representatives to serve as a BCG expert panel.
2. Within 14 calendar days of approval by the TOCOR/ALT TOCOR of the selected BCG local expert panel list, the contractor shall finalize the BCG expert panel. There should not be any travel costs for the expert panel since they are local.

Task 7 – Develop Sample Materials and Data for BCG Expert Rating

The contractor shall prepare workbooks for rating fish and macroinvertebrate samples separately. For example, (a) each Excel workbook will include multiple tabs related to taxa attributes, station information, and sample data; (b) The worksheets may be related to each other and interactive so that changes to taxa attributes will be automatically updated for each sample-specific worksheet; (c) Sample metrics may be generated for each sample based on the taxa attributes; (d) Site classification information and sample metadata may be available on the worksheets for review during the expert rating process; and (e) Specific site identifiers and stressor information may be hidden, but may be available to reveal after the rating process is complete. The workbooks are intended to allow experts to associate environmental conditions with the biological conditions, but doesn't permit the stressor data to be used for site ratings.

Task 7 Deliverables

1. Within 30 calendar days after completion of Task 6, the contractor shall deliver to the TOCOR/ALT TOCOR, the draft BCG Expert Panel Workbook materials.
2. Within 14 calendar days of approval by the TOCOR/ALT TOCOR of draft BCG Expert Panel Workbook materials, the contractor shall provide a final BCG Expert Panel Workbook materials in preparation for the BCG Expert Panel webinar(s) and workshop(s).

Task 8 – Convene and Conduct Workshop and Webinars for BCG Expert Ratings

The contractor, in consultation with the CORALT TOCOR, EPA ORD/R6 Principle Investigators and NMED, shall plan logistics for the BCG workshop. For example, the expert panel (see Task 6) may convene in one location for a 3-day workshop. The workshop may include, for example, (a) an introductory session with all participants to present BCG background and concepts; (b) lay-out the rating procedures; (c) cover meeting logistics; breakout sessions for each of the fish and macroinvertebrate taxa experts facilitated by the contractor; and (d) attributes will be assigned to taxa and ratings will be assigned to samples.

At the conclusion of the workshop, the contractor shall collate ratings from each expert for each selected site. Consensus will be established through presentation of median ratings and discussions of that median rating as an acceptable consensus rating for the site.

The contractor shall consider conducting up to three (3) webinars for each taxa group and for each distinct site class. The webinars are intended to allow presentation of draft and final models and rating of additional sites for model refinement or validation.

All workshop spending must be in compliance with *Conference Spending Guide*, Office of the Chief Financial Officer, Office of the Comptroller, March 10, 2016.

Task 8 Deliverables

1. BCG Expert Panel Agenda
 - a. Within 60 calendar days after completion of Task 7, the contractor shall deliver to the TOCOR/ALT TOCOR, the draft Agenda for one (1) BCG Expert Panel Workshop.
 - b. Within 14 calendar days of approval, by the TOCOR/ALT TOCOR, of the BCG Expert Panel Workshop Agenda, the contractor shall finalize the BCG Expert Panel Agenda.
2. BCG Expert Panel Workshop and Logistics
 - a. Within 30 calendar days of completion of Task 7, the contractor shall deliver to the TOCOR/ALT TOCOR, the proposed BCG Expert Panel Workshop meeting logistics for review, and final approval. **The meeting space will be in either Santa Fe or Albuquerque New Mexico Environment Department facilities at no cost.**
 - b. Within 14 calendar days of approval, by the TOCOR/ALT TOCOR, of the proposed BCG Expert Panel meeting logistics (Task 8, Deliverable 2a), the contractor shall finalize all meeting logistics.
3. BCG Expert Panel Webinars
 - a. Within 30 calendar days of Task Deliverables 8.1 and 8.2 completion, the contractor shall deliver to the TOCOR/ALT TOCOR, the number of recommended webinars and associated Draft Agendas for each webinar. **In order to conserve resources, the contractor, with assistance from the TOCOR/ALT TOCOR, use EPA webinar and teleconference resources.**
 - b. Within 14 calendar days of approval by the TOCOR/ALT TOCOR, the contractor shall deliver the number of webinars and associated agendas (Task 8, Deliverable 3a). The contractor, in coordination with the TOCOR/ALT TOCOR shall finalize the webinar logistics.

Task 9 – Develop and Test Quantitative Decision Model

The contractor shall calibrate and test quantitative decision models that translate the expert panel's (see Task 8) rules and rationale for rating of each sample. For example, fuzzy set theory could be used to set parameters for rules and to combine rules for each of the six BCG levels.

Task 9 Deliverables

1. Within 90 calendar days of completion of Task 8, a draft Quantitative Decision Model will be delivered to the TOCOR/ALT TOCOR.
2. Within 14 calendar days of approval of the draft Quantitate Decision Model by the TOCOR/ALT TOCOR, the contractor shall finalize the Quantitative Decision Model.

Task 10 – Final Report

The contractor shall produce a final report to be reviewed by the TOCOR/ALT TOCOR, state, and invited panel experts. The report shall include background information on the BCG; New Mexico data sets used in calibration; the BCG development process; workshop, webinar, and model results; proposed BCG models and performance for fish and macroinvertebrate assemblages; and recommendations and application issues. The final report shall be submitted along with data used in the calibration process.

Task 10 Deliverables

1. Within 60 days of completion of Task 9, a draft Report described shall be delivered to the TOCOR/ALT TOCOR. The draft Report will be in MS Word, MS Excel, MS PowerPoint, and/or pdf formats which best fits the deliverable.
2. Within 14 calendar days of approval of the draft Report by the TOCOR/ALT TOCOR, the contractor shall finalize the Final Report.

D. SCHEDULE OF BENCHMARKS & DELIVERABLES

TASKS	TASK DELIVERABLES	DELIVERABLE DUE DATES
Task 1	1.1 Scoping Meeting and Work Plan Review Notes	10 calendar days of Scoping Meeting
Task 2	2.1 Draft Quality Assurance Project Plan	30 calendar days of Task 1 Completion
	2.2 Final Quality Assurance Project Plan	30 Calendar days of approval of Deliverable 2.1
Task 3	3.1 Draft Biological Condition Approach	60 calendar days of Task 2 completion
	3.2 Final Biological Condition Approach	30 Calendar days of approval of Deliverable 3.1
Task 4	4.1 Aggregate, QA, and Manage Data for Use throughout the Task Order	60 calendar days of Task 3 completion
	4.2 Aggregate, QA, and Manage Data for Use in Digital Format throughout the Task Order	10 Calendar days of approval of Deliverable 4.1
Task 5	5.1 Draft Rio Grande Classification Scheme	60 calendar days of Task 4 completion
	5.2 Final Rio Grande Classification Scheme	30 Calendar days of approval of Deliverable 5.1
Task 6	6.1 Proposed Expert Panelists	30 calendar days of Task 5 completion
	6.2 Final Expert Panelists	14 Calendar days of approval of Deliverable 6.1
Task 7	7.1 Draft BCG Expert Panel Workbook Materials	30 calendar days of Task 6 completion
	7.2 Final BCG Expert Panel Workbook Materials	14 Calendar days of approval of Deliverable 7.1
Task 8	8.1a Draft BCG Expert Panel Agenda	60 calendar days of Task 7 completion
	8.1b Final BCG Expert Panel Agenda	14 Calendar days of approval of Deliverable 8.1a
	8.2a Proposed BCG Expert Panel Workshop Meeting Location	30 calendar days of Task 7 completion
	8.2b Final BCG Expert Panel Workshop Meeting Location	14 Calendar days of approval of Deliverable 8.2a
	8.3a Proposed BCG Expert Panel Webinars and Agendas	30 calendar days of Task Deliverables 8.1 and 8.2 completion
	8.3b Finalize BCG Expert Panel Webinars and Agendas	14 calendar days of approval of the number of webinars and associated agendas (Deliverable 8.3a)
Task 9	9.1 Draft Quantitative Decision Model	90 calendar days of Task 8 completion
	9.2 Final Quantitative Decision Model	14 Calendar days of Deliverable 9.1 approval
Task 10	10.1 Draft Report	60 calendar days of Task 9 completion
	10.2 Final Report	14 Calendar days of Deliverable 10.1 approval

E. REPORTING

All documentation and reporting under this TO shall be in compliance with contract requirements.

Additional requirements specific to this TO are as follows: Electronic deliverables must be in an original file format that can be supported by EPA after the end of the Period of Performance of the TO. The standard office software at EPA is MS Office. The standard GIS software at EPA is ESRI ArcGIS.

F. TRAVEL

Travel is anticipated for no more than 1 – 2 individual contractor biologists meeting in New Mexico under Task 8.

- G.** The Contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the TOCOR/ALT TOCOR.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE OF PAGES 1 2		
2. AMENDMENT/MODIFICATION NO. P00001		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY CP0D US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268		CODE		7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) TETRA TECH, INC. Attn: John Hochheimer 10306 EATON PL STE 340 FAIRFAX VA 22030				(X)		9A. AMENDMENT OF SOLICITATION NO.	
						9B. DATED (SEE ITEM 11)	
				X		10A. MODIFICATION OF CONTRACT/ORDER NO. EP-C-17-031 0007	
CODE 198549560				FACILITY CODE		10B. DATED (SEE ITEM 13) 03/27/2018	
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required) See Schedule							
13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
CHECK ONE		A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
X		B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).					
		C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
		D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) DUNS Number: 198549560 Firm Fixed Price TO New Mexico Rio Grande River Biological Condition Gradient TOCOR: Dave Peck Max Expire Date: 12/31/2020 The purpose of this modification is to incorporate the attached EPA blanket administrative modification signed by Raoul Scott on July 30, 2020. All other terms and conditions remain unchanged. Payment: Period of Performance: 04/02/2018 to 12/31/2020 Delivery-Invoice Payment Schedule Shall not exceed a frequency greater than once a month and 90% of the task order price. Acceptance for invoicing is based on deliverable approval by the TOCOR. For efficient Continued ... Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Andrea Dehne			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)		16C. DATE SIGNED 10/02/2020	
(Signature of person authorized to sign)							

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	EP-C-17-031/0007/P00001	2	2

NAME OF OFFEROR OR CONTRACTOR
TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	processing IAW FAR clause 52.232-32, performance based payment invoicing amounts will not be submitted until the TOCOR provides deliverable approval. The TOCOR will notify Tetra Tech within 14 days of submission of a deliverable of EPAs intention to approve or disapprove.				

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE		PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NUMBER		3. EFFECTIVE DATE 08/13/2020		4. REQUISITION/PURCHASE REQUISITION NUMBER		5. PROJECT NUMBER (If applicable)	
6. ISSUED BY Raoul D. Scott, Director OMS/ARM/OAS/Policy, Training and Oversight Division US Environmental Protection Agency, Mail Code 3802R 1200 Pennsylvania Avenue, NW Washington, DC 20004		7. ADMINISTERED BY (If other than Item 6)		CODE			
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code) To All EPA Contractors				<input checked="" type="checkbox"/> (X)		9A. AMENDMENT OF SOLICITATION NUMBER	
				<input type="checkbox"/>		9B. DATED (SEE ITEM 11)	
				<input checked="" type="checkbox"/> (X)		10A. MODIFICATION OF CONTRACT/ORDER NUMBER To all EPA Contracts and Orders	
				<input type="checkbox"/>		10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;
 or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
<input type="checkbox"/>	
<input checked="" type="checkbox"/> (X)	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

This contract/order is being modified in accordance with the applicability instructions in interim FAR Case 2019-009, and FAR 4.2105, requiring contracting officers to include FAR clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

See attached for the full text version of FAR 52.204-25. Contractor Acknowledgment of receipt required.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Raoul D. Scott, Director Policy, Training and Oversight Division	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA RAOUL SCOTT Digitally signed by RAOUL SCOTT Date: 2020.07.30 11:40:17 -04'00'	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

Previous edition unusable

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)

(a) Definitions. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause

(i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE OF PAGES 1 2		
2. AMENDMENT/MODIFICATION NO. P00002		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO. PR-R6-21-00084		5. PROJECT NO. (If applicable)	
6. ISSUED BY CP0D US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) TETRA TECH, INC. Attn: George Townsend 10306 EATON PL STE 340 FAIRFAX VA 22030				(X)		9A. AMENDMENT OF SOLICITATION NO.	
						9B. DATED (SEE ITEM 11)	
				X		10A. MODIFICATION OF CONTRACT/ORDER NO. EP-C-17-031 0007	
CODE 198549560				FACILITY CODE		10B. DATED (SEE ITEM 13) 03/27/2018	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) BILATERAL AGREEMENT - CONFIRM DELIVERABLE RECEIPT IN FULL FOR TASK ORDER CLOSEOUT

E. IMPORTANT: Contractor ☐ is not ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 198549560

Firm Fixed Price TO New Mexico Rio Grande River Biological Condition Gradient

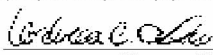
TOCOR: Dave Peck Max Expire Date: 12/31/2020

LIST OF CHANGES:

Reason for Modification: Confirm Order Close Out

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Andrea Dehne	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)	16C. DATE SIGNED 03/17/2021

Previous edition unusable

STANDARD FORM 30 (REV. 11/2016)
Prescribed by GSA FAR (48 CFR) 53.243

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	EP-C-17-031/0007/P00002	2	2

NAME OF OFFEROR OR CONTRACTOR
TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>Payment:</p> <p>RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711</p> <p>Period of Performance: 04/02/2018 to 12/31/2020</p> <p>Delivery-Invoice Payment Schedule</p> <p>Shall not exceed a frequency greater than once a month and 90% of the task order price. Acceptance for invoicing is based on deliverable approval by the TOCOR. For efficient processing IAW FAR clause 52.232-32, performance based payment invoicing amounts will not be submitted until the TOCOR provides deliverable approval. The TOCOR will notify Tetra Tech within 14 days of submission of a deliverable of EPAs intention to approve or disapprove.</p>				